CLAIMS

1. A cavitation suppressor for connection with an inlet of a coolant pump to increase inlet pressure for controlling cavitation, the suppressor comprising:

a converging inlet nozzle defining an interior passage having reducing cross-sectional areas from an inlet end to an outlet end;

a diffuser pipe extending from the outlet end of the nozzle for connection with a pump inlet and defining a passage having a cross-sectional area larger than that of the nozzle outlet end; and

a head pipe connected to the diffuser pipe adjacent the outlet end of the nozzle and defining a passage adapted for connection with a source of coolant pressure head.

2. A cavitation suppressor as in claim 1 wherein the nozzle, diffuser pipe and head pipe are individual components joined into an assembly

3. A cavitation suppressor as in claim 1 wherein the nozzle is formed with an integral flange for connection of the aspirator with the coolant circulation system.

4. A cavitation suppressor as in claim 3 wherein the head pipe includes a flange for connection of the suppressor with a coolant tank.

5. A cavitation suppressor as in claim 1 wherein the nozzle passage is conical.

6. A cavitation suppressor as in claim 1 wherein the cross-sectional area of the diffuser pipe passage is in the range of from about 2 to 3.5 times the cross-sectional area of the nozzle outlet end.

7. A cavitation suppressor as in claim 6 wherein the cross-sectional area of the diffuser pipe passage is about 2.75 times the cross-sectional area of the nozzle outlet end.

8. An engine cooling system comprising:

an engine having internal cooling passages;

a centrifugal coolant pump connected to deliver coolant to the cooling passages;

at least one heat exchanger connected in series with the cooling passages and an inlet of the pump

a coolant tank mounted above the pump inlet; and

a cavitation suppressor including a diffuser connected with the pump inlet, a converging nozzle having an outlet connected to a larger inlet end of the diffuser to accelerate coolant flow entering the diffuser, and a head pipe connecting a lower portion of the coolant tank with the diffuser adjacent the nozzle to apply a static pressure head of the coolant in the tank to the accelerated coolant flow entering the diffuser to establish a static pressure of the entering flow equal to the static pressure head;

whereby slowing of the coolant flow in the larger diffuser converts dynamic head of the accelerated coolant to increased static pressure at the pump inlet, which increases the suppression of cavitation of the coolant in the pump inlet during operation of the system at increased temperature levels.